



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,637	06/15/2006	Konstantinos Chondroudis	SMX 2022.2 (2003-037 (PCT)	7262
45735	7590	06/24/2008	EXAMINER	
SENNIGER POWERS LLP (SMX)			HAILEY, PATRICIA L	
ONE METROPOLITAN SQUARE				
16TH FLOOR			ART UNIT	PAPER NUMBER
ST. LOUIS, MO 63102			1793	
			NOTIFICATION DATE	DELIVERY MODE
			06/24/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspatents@senniger.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/559,637	CHONDROUDIS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	PATRICIA L. HAILEY	1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 02 December 2005.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 and 39-64 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 6 and 64 is/are allowed.  
 6) Claim(s) 1-5,7-9,12-19 and 39-63 is/are rejected.  
 7) Claim(s) 10 and 11 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 02 December 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 03/21/06.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

Applicants' Preliminary Amendment, filed on December 2, 2005, has been made of record and entered. In this amendment, claims 20-38 have been canceled, and new claims 39-64 have been added.

Claims 1-19 and 39-64 are now pending in this application.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. ***Claims 1, 2, 7-9, 16-18, and 39-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Acres et al. (U. S. Patent No. 3,915,898).***

Acres et al. teach a catalyst material used in the oxidation of ammonia gas (col. 1, lines 3-7), comprising backup gauzes made from Pt/Ni/Cr alloys, in particular 16Pt/67Ni/Cr (i.e., the balance, apart from impurities, chromium). See col. 3, lines 12-22 and claims 1 and 2 of Acres et al.

In view of these teachings, Acres et al. anticipate claims 1, 2, 7-9, 16-18, and 39-42.

3. ***Claims 4, 12-18, and 50-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Capuano et al. (U. S. Patent No. 5,126,216, Applicants' submitted art).***

Capuano et al. teach an electrocatalyst made of a noble metal chromium-copper alloy supported on an electrically conductive material (e.g., carbon, see col. 2, lines 40-46 of Capuano et al.), said electrocatalyst having a mass activity for oxygen reduction. See col. 2, lines 21-26 of Capuano et al.

The catalyst contains from about 50 to 60 % w/w noble metal (preferably platinum), from about 15 to 25% w/w chromium, and from about 20 to 30 % w/w copper. See col. 2, lines 27-32 of Capuano et al.

See also Table 1 of Capuano et al., which depicts exemplary Pt-Cr-Cu ternary alloy catalysts.

In view of these teachings, Capuano et al. anticipate claims 4, 12-18, and 50-54.

**4. *Claims 1-5, 7, 8, 12-19, and 39-63 are rejected under 35 U.S.C. 102(b) as being anticipated by Freund et al. (U. S. Patent No. 5,767,036).***

Freund et al. teach a catalyst containing a platinum-aluminum alloy deposited on a conductive carbon carrier, wherein the alloy is alloyed with one further alloy element L, to form a composition represented by the formula



in which L designates at least one alloy element selected from the group consisting of, inter alia, Groups VIB, VIII and IB. See col. 3, lines 35-44 of Freund et al., as well as col. 5, lines 30-60, which also discloses that the common atomic ratio of platinum and aluminum to the alloy elements should satisfy the relationship  $(x + y):z = 85:15$  to  $50:50$ , and also lists chromium and nickel as examples for alloy element L.

Although Freund et al. do not explicitly disclose copper, the reference's teaching of a Group IB metal as an example of alloy element L is considered to include copper.

Example 8 of Freund et al. depicts an embodiment in which a  $\text{Pt}_{45}\text{Al}_{15}\text{Cr}_{30}\text{Ni}_{10}$  supported catalyst is prepared.

In view of these teachings, Freund et al. anticipates claims 1-5, 7, 8, 12-19, and 39-63.

#### ***Allowable Subject Matter***

5. Claims 6 and 64 are allowed.
6. Claims 10 and 11 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter:
  8. The prior art cited does not teach or suggest the limitations of claims 6, 10, 11 and 64, regarding the presence of platinum in the catalyst in an amount of less than 40 atomic percent (claims 6 and 64), or between about 20 and about 30 or 35 percent (claims 10 and 11).

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICIA L. HAILEY/  
Examiner, Art Unit 1793  
June 18, 2008